

STATEMENT OF CAPTAIN EDWARD M. DAVIDSON,
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BEFORE THE SENATE COMMITTEE ON COMMERCE,
SCIENCE AND TRANSPORTATION
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Chairman Hollings, Ranking Member McCain, and other Members of this distinguished Committee, thank you for the opportunity to testify today. I appreciate the chance to explain why, in the real world of a cramped cockpit where there is no margin for error, permitting commercial pilots to carry and use lethal firearms threatens safety more than it potentially will improve it. Moreover, I am grateful for the opportunity to explain how the legislation undermines Congress' intent to make hardened cockpit doors an impenetrable protective shield for flight crews, and how it dangerously contradicts a flight crews' first responsibility to give its undivided attention to safely land a threatened aircraft as quickly as possible. Simply put, S. 2554 and H.R. 4635 raise more troubling safety questions than they provide security answers.

My name is Edward Davidson and I have been a commercial airline pilot for 24 years. For the past 13 years, I have served as a Captain for Northwest Airlines and I currently am its Director for Flight Safety and Quality Assurance. I also presently serve as an Instructor Pilot and Check Airman for the Airbus 320 aircraft and previously served in a similar capacity on the MD-80, DC9 and B-727. My flying career, that includes more than 20,000 flight hours, began with service to our Country in Vietnam as a U.S. Navy pilot. In 1994, I retired as a Commander in the U.S. Naval Reserve.

At the outset, let me thank the Committee and the Congress for your ongoing efforts to improve aviation security. Quick passage of the Aviation and Transportation Security Act of 2001 after the horrific events of September 11 was a great comfort to the traveling public, and particularly those of us who work onboard commercial aircraft. The Committee's continuing vigilance to ensure the new security law is fully and thoughtfully implemented is greatly appreciated.

Mr. Chairman, I am a professional commercial airline pilot. When I am on duty, my singular focus is, and always must be, the safe operation of my aircraft. Commercial pilots operate in an environment where there is zero margin for error. It is a demanding profession where the failure at any time to give one's undivided attention to the safe operation of one's aircraft can have catastrophic consequences. I fully subscribe to the view my colleague, Captain Duane Woerth, expressed in testimony before this distinguished Committee last Fall – "We can't be Sky King and Wyatt Earp at the same time." The two roles cannot coexist without necessarily compromising a pilot's paramount duty to safely operate his or her aircraft.

Reasonable people can differ on important issues. I respect the fact that some of my fellow commercial pilots, including Captain Woerth, whose position has changed, have a different view of this legislation. I also believe Congressional supporters of S. 2554 and H.R. 4635 are well-intended. However, the unintended consequences of arming

pilots in a confined cockpit are too alarming and potentially disastrous to disregard. In my professional judgement, the reduction in safety that undoubtedly will result from blurring the flight crews' singular focus on the safe operation of its aircraft will make the skies more dangerous rather than safer.

Let me now turn to the most significant and troubling unintended consequences of this legislation that strongly cut against its enactment. These include the fact the legislation (1) completely undermines Congress' intent to make hardened cockpit doors an impenetrable line of defense so flight crews with a threatened aircraft can safely land the aircraft as quickly as possible at the nearest airport feasible, (2) increases the probability of operational errors, (3) compromises the safety of the cockpit and (4) undermines key provisions of last year's security law.

First, the legislation undermines this Committee and Congress' intent in the new security law to make secured cockpit doors the best line of defense against an aircraft being commandeered for terrorist purposes. Your conclusion that hardened cockpit doors are the most effective way to protect the cockpit remains valid today. In fact, I feel much more secure in the flight deck today as a result of hardened cockpit doors which have been installed and tough protocols that severely restrict when the cockpit door can be opened. As Congress envisioned, the cockpit door has become a significant line of defense. Importantly, relying on this approach, the goal of protecting the cockpit has been accomplished in a manner that does

not produce unintended dangers for passengers, the aircraft itself and the flight crew.

The legislation would create a dangerous breach in the hardened cockpit door line of defense you championed last year. It also directly contradicts a pilot's first priority to safely land a threatened aircraft as quickly as possible at the nearest airport feasible which hardening of cockpit doors was intended to facilitate. Specifically, by having a firearm in the cockpit, it creates a temptation, and more likely an imperative, for flight crews to open the cockpit door in dangerous and chaotic situations. That is exactly the wrong direction for Congress to give flight crews in such circumstances. Those are precisely the times a cockpit door should remain closed and act as an impenetrable shield so the pilots can safely land the aircraft as quickly as possible. There is a more effective and safer alternative to lethal firearms in the cockpit. It is reasonable cockpit door protection which you identified and mandated last year, and it is a prudent solution that is working.

Second, arming pilots will erode their ability to operate aircraft at the same level of safety that exists today. Human performance studies by NASA Ames Research and other academic bodies consistently show that the more you add to a pilot's workload and create variances from his or her normal routine, the higher the likelihood for human error in all aspects of that pilot's performance. In a profession where human mistakes today account for 60 percent of all air carrier incidents and accidents, the safety of the traveling public demands this potential negative impact of the legislation on operational errors not be glossed over.

Mr. Chairman, despite all the high technology and automation in today's commercial aircraft, humans operate them. The airline pilot's job is a demanding one. Modern jet aircraft present complex systems and management demands of their pilot operators in variable environments. Workload is further intensified by adverse weather, heavy traffic density and the need for accurate communications. Add to that mix multiple time zones, complex reasoning and rapid decision-making with life or death consequences and the result is a recipe for human beings experiencing mental and physical stress. This is especially the case during takeoff, approach, landing and abnormal operations or with inoperative equipment. Like any human, airline pilots are the most operationally reliable and least prone to error when experiencing only a minimal to moderate workload.

Studies show time after time that human performance and error reduction depend on the stability of the workload as much as the level of workload. Workload stability is critical. This is why all airlines attempt to stabilize workloads and decrease the likelihood of unexpected demand on crews as much as possible by employing pre-designed checklists and procedures and training on workload management techniques. These safeguards are designed to decrease unexpected pilot-required input and thereby create a structure intended to minimize the occurrence of human operational errors. The effectiveness of these measures has been impressive as accidents and incidents attributable to pilot errors continue to decline substantially.

The potential addition of firearms to the flight deck turns these efforts on their head. It would create workload instability and sacrifice predictability by creating the opportunity for a whole new series of demands on pilots. New decisions such as determining if a life-threatening event is occurring, whether to open the cockpit door to confront suspected air terrorists, and whether to draw the weapon and on whom and when to fire undoubtedly would present a potentially significant new and unpredictable increase in workload. Keep in mind, these disruptions in workload stability occur at the very time a pilot simultaneously is trying to safely operate the aircraft. To call the magnitude of this adverse impact on routine workload management overwhelming would be a gross understatement. In my judgment, the resulting potential increase in operational errors could jeopardize safe aircraft operations to a greater extent than the threat to the flight deck crew, cabin crew and passengers this legislation is intended to address.

Mr. Chairman, there are some pilots who might say carrying a firearm is not a big deal. They also might dismiss my admonition and say the red flag I raise today about negative cascading impacts on operational errors is unwarranted. However, I believe it to be self-evident and incontestable that carrying and potentially using a lethal firearm in a crowded and potentially chaotic setting aboard a commercial airliner while piloting that aircraft across the skies at hundreds of miles per hour would undeniably add both stress and instability to a pilot's workload. Common sense and scientific studies confirm that scenarios such as this have the potential to impact overall performance and increase the possibility of human error. Authorizing

a dual law enforcement role for a pilot, even if he or she does not believe it is a big deal, has the high likelihood of negatively impacting safety performance.

Third, there are potentially grave unintended consequences and risks inherent in having a lethal firearm in the flight deck. For good reason, there has been considerable discussion of the dangers of pilots and highly trained air marshals discharging firearms in the passenger cabin of commercial aircraft. The threat to innocent passengers of being inadvertently shot must be considered very carefully. So too should the potential harm to the structural integrity of the aircraft if it is pierced by a bullet. Today, however, I would like to focus on the area of aircraft I know best, the flight deck.

In case that you have not been in the cockpit of a commercial aircraft, it is extremely cramped quarters. Pilots are literally shoe-horned in among equipment and monitors from the floor to the ceiling. The legislation would add a lethal firearm to this proverbial “china shop.” This is where the unintended consequences of the legislation become especially frightening.

What happens if the firearm discharges in the cockpit? Irrespective of whether the gun is inadvertently discharged, accidentally fired during a wrestling match with an inebriated passenger or deliberately fired at an assumed attacker, every scenario is potentially ominous for passengers and the survivability of the aircraft. Bullets could kill or incapacitate all members of the cockpit flight crew rendering them unable to fly the aircraft. They could pierce the flight

deck windows creating a potentially catastrophic cockpit decompression rendering it impossible for the flight crew to control the aircraft. They could strike one of the many multi-functional instruments putting at risk numerous safety critical systems. Or, a stray bullet through the floor could strike critical electronic navigation equipment located beneath the flight deck.

Mr. Chairman, I concede these are worse case scenarios. I am trained, and train others pilots, to address worse case scenarios. That is the most effective way to ensure passengers arrive safely at their destination. By no means, however, are these scenarios far-fetched. According to at least one study, 21 percent of police officers killed with a handgun were shot with their own service weapon. Struggles for control of firearms are not uncommon. Sadly, nor are accidents involving firearms.

As a Captain, given the delicate and cramped confines of the cockpit, it is the last place on an airborne commercial aircraft where I would want a wrestling match to occur, much less one involving the potential for stray bullets being fired. The inherent risk that the legislation compromises the safety of the cockpit reinforces my belief the proposed legislative response may well create greater risk for passengers, crews and innocent people on the ground than the threat it is intended to address.

Finally, I wish to take the opportunity to identify implications of the legislation that may inadvertently undermine the multi-layered security system the new security law seeks to

enhance. Specifically, I am referring to the implications of the legislation for airport and onboard security.

As I understand, the principal objective of the new security law was to ensure the sterile areas in the air travel security chain are in fact free of lethal and potentially lethal weapons that diabolical people could use to wreak death and destruction. Yet, the legislation pending before you could have precisely the opposite effect. In fact, it could lead to a proliferation of firearms being carried in the security sterile areas of airports and onboard aircraft. The Committee should carefully consider both the ramifications this might have and the consequences that might result from it.

As we tighten security at screening checkpoints to ensure lethal weapons do not pass into security sterile airport areas beyond them, the legislation could have the unintended effect of drawing a roadmap where terrorists could procure lethal weapons inside the sterile area. Any pilot in uniform would be viewed as being a potential repository of a firearm. Air marshals do not present the same threat because they are anonymous. Pilots could be followed and their flight bag could be stolen or taken by force. If this seems unrealistic, just consider how often you see pilots at airports put down their flight bag to use the restroom or make a telephone call.

This legislation also has the potential to make airports armories for pilot firearms. Where will pilots store their firearms? Do you expect pilots to leave their weapons at the

airport or take them to the crew hotel? If the former, would it promote or rather threaten passenger safety to have a stockpile of weapons stored at the airport? I believe these are questions the Committee needs to carefully consider.

Onboard the aircraft, security has been based on the premise that we want to keep lethal weapons off aircraft. An exception to this general rule was understandably made for air marshals who are highly trained and, more importantly, singularly focused on law enforcement responsibilities. This legislation dismisses this principle and in its place welcomes lethal weapons onboard commercial aircraft under the apparent belief that they would be used solely to protect passengers. I wish we could make that assumption with certainty but we cannot. Firearms can and do end up in the wrong hands. As I mentioned earlier, one study shows that 21 percent of police officers killed with a handgun were shot with their own weapon. Simply put, there is no guarantee that firearms brought into the cockpit will remain in the hands of the “good guys” and be used to protect passengers.

Like the airport scenario I described a moment ago, another area of concern is that the legislation would inadvertently draw a roadmap straight to the cockpit for terrorists seeking lethal weapons onboard the aircraft. Whether or not a particular flight crew has volunteered to participate in the program, there will be the general perception that firearms may be available in the cockpit. In the spirit of thwarting efforts by terrorists, we could inadvertently be presenting them with an opportunity.

Before I conclude my remarks, I want to address a viscerally powerful argument made by proponents of arming pilots. This is the argument that if Congress fails to arm pilots it increases the risk that the military will be called upon to shoot down a commercial aircraft. As a former Naval aviator and a commercial airline Captain, there is nothing I want more to prevent than that scenario. I would suggest, however, that the Committee should broaden and reframe the issue. The objective should be to prevent any loss of life onboard aircraft or on the ground resulting from terrorism-related activity or responses to it. If we put in place an unwise and dangerous measure such as arming pilots with lethal firearms that leads to a wrestling match in the cockpit and a resulting crash, loved one's of lost passengers, crew and fatalities on the ground would grieve no less. We need to carefully and thoughtfully heighten security without creating a greater risk than the underlying one we seek to address.

Mr. Chairman, let me conclude by again thanking you for the chance to testify today. Also, let me reiterate my appreciation to you, Ranking Member McCain and this distinguished Committee for your leadership and diligence on aviation security matters. I urge you to very carefully consider the proposal before you that would permit commercial pilots to carry and use lethal firearms. Upon full and careful review, I believe the facts and serious questions that arise will lead you to join me in concluding that S. 2554 should not be enacted because it threatens air safety more than it potentially would improve it.